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THE CAUSES OF SLAVERY: A HYPOTHESIS

Fvsey D. Domar

Presented to the

Economic History Association

Number 42

August 28, 1969

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# THE CAUSES OF SLAVERY: A HYPOTHESIS<sup>1/</sup>

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## I

The purpose of this paper is to present, or more correctly -- to revive, a hypothesis regarding the causes of agricultural serfdom or slavery (used here interchangeably). The hypothesis was suggested by Klfûchevsky's description of the Russian experience in the XVI-XVII centuries, but it aims at a wider applicability.<sup>2/</sup>

According to Klfûchevsky, from about the second half of the XV century Russia was engaged in long hard wars against her western and southern neighbors. The wars required large forces that the state found impossible to support from tax revenue alone. Hence the government began to assign lands (pomest'ia) to the servitors, who were expected to use peasant labor (directly and/or via payments in kind and/or money) for their maintenance and weapons. In exchange, the servitor gave the peasants a loan and permitted them, free men as yet, to work all or part of his land on their own. The system worked rather badly, however, because of shortage of labor. Severe competition among landowners developed, the servitors being bested by lay and clerical magnates. Things became particularly difficult for the servitors after the middle of the XVI century when the central areas of the state became depopulated because of peasant migration into the newly conquered areas in the east and southeast. Under the pressure of the serving class and for certain other reasons, the government gradually restricted the freedom of peasants, already

hopelessly in debt to their landlords, to move. They became enserfed by the middle of the XVII century, though the process itself continued for many decades to come.

This is a very rough summary of Klûchevsky's story which hardly does him justice but which will serve my purposes until Part II. Like many a historian, he assembled and described the relevant facts (and in beautiful Russian at that) and stopped just short of an analytical explanation.

The economist would recast Klûchevsky's account as follows: The servitors tried to live off rents (in one form or another) to be collected from their estates. But the estates could not yield a significant amount of rent for the simple reason that land in Russia was not sufficiently scarce relative to labor, and ironically, was made even less scarce by Russian conquests. The scarce factor of production was not land but labor. Hence it was the ownership of peasants and not of land that could yield an income to the servitors or to any non-working landowning class.

A simple economic model may sharpen the argument (if any sharpening is needed) and help to develop it further. Assume that labor and land are the only factors of production (no capital or management), and that land of uniform quality and location is ubiquitous. No diminishing returns in the application of labor to land appear; both the average and the marginal productivities of labor are constant and equal, and if competition among employers raises wages to that level (as would be expected), no rent from land can arise, as Ricardo demonstrated some time past. In the absence of specific

governmental action to the contrary (see below), the country will consist of family-size farms because hired labor, in any form, will be either unavailable or unprofitable: the wage of a hired man or the income of a tenant will have to be at least equal to what he can make on his own farm; if he receives that much, no surplus (rent) will be left for his employer. A non-working class of servitors or others could be supported by the government out of taxes levied (directly or indirectly) on the peasants, but it could not support itself from land rents.

As a step toward reality, let us relax the assumption of the ubiquity of uniform land, and let capital (clearing costs, food, seeds, livestock, structures and implements) and management be included among the factors of production. Owners of capital, of superior skill and of better-than-average land will now be able to pay a hired man his due (or to use a tenant) and still obtain a surplus. But so long as agricultural skills can be easily acquired, the amount of capital for starting a farm is small, and the per-capita income is relatively high (because of the ample supply of land), a good worker should be able to save or borrow and start on his own in time. Most of the farms will still be more or less family-size, with an estate using hired labor (or tenants) here and there in areas of unusually good (in fertility and/or in location) land, or specializing in activities requiring higher-than-average capital intensity, or skillful management. But until land becomes rather scarce, and/or the amount of capital required to start a farm -- relatively large, it is unlikely that a large class of landowners,

such as required by the Muscovite government, could be supported by economic forces alone. The American North in the Colonial period and in the XIX century would be a good example of an agricultural structure of this type.

So far the institutional structure has been shaped by economic forces alone without direct interference by the government.<sup>3/</sup> Suppose now that the government decides to create, or at least to facilitate the creation, of a non-working class of agricultural owners. As a first step, it gives the members of this class the sole right of ownership of land. The peasants will now have to work for the landowners, but so long as the workers are free to move, competition among the employers will drive the wage up to the value of the marginal product of labor, and since the latter is still fairly close to the value of the average product (because of the abundance of land) little surplus will remain. The Russian situation prior to the peasants' enservment corresponds to this case.

The next and final step to be taken by the government still pursuing its objective is the abolition of the peasants' right to move. With labor tied to land or to the owner, competition among employers ceases. Now the employer can derive a rent, not from his land, but from his peasants by appropriating all or most of their income above some subsistence level.<sup>4/</sup> That Russian serfs could stay alive, and even to multiply, while working for themselves half-time and less suggests that the productivity of their labor (with poor technique, little capital, but abundant land) must have been quite high.



To recapitulate, the strong version of this hypothesis (without capital, management, etc.) asserts that of the three elements of an agricultural structure relevant here -- free land, free peasants and non-working landowners -- any two elements but never all three can exist simultaneously. The combination to be found in reality will depend on the behavior of political factors -- governmental measures -- treated here as an exogenous variable.

The presence of this exogenous political variable seriously weakens the effectiveness of my model: it makes the presence of free land by itself neither a necessary nor a sufficient condition for the existence of serfdom. It is not a necessary condition because so long as marginal productivity of labor is high, serfdom may continue to exist even if free land is no longer present; it may even be imposed at this stage, as it was in the Russian Ukraine in the XVIII century. Free land is not a sufficient condition because, as I stated above, without proper governmental action free land will give rise to free farmers rather than to serfs.

For the same reasons the model cannot predict the net effect of a change in the land/labor ratio on the position of the peasants. Suppose, that with constant land, technology and per-capita stock of capital, population increases. The economic position of the peasants will worsen (even serfs can be exploited more), but the landowners will be less inclined to interfere with the peasants' freedom. Let population decline instead. The peasants will be better off provided they do not become less free. Thus a change in

the land/labor ratio can set in motion economic and political forces acting in opposite directions.

The strength and usefulness of the model could be increased by making the political variable endogenous. But this I cannot do without help from historians and political scientists.

These difficulties notwithstanding, I would still expect to find a positive statistical correlation between free land and serfdom (or slavery). Such a correlation was indeed found by H. J. Nieboer of whom you'll hear more in Part III.

What about the end of serfdom (or slavery)? Traditionally it was assumed that it would or did disappear because of the inherent superiority of free labor. This superiority, arising from the higher motivation of the free man, was supposed to increase with greater use of capital and with technological progress. Let us disregard the possibly greater reliability of the slave and the longer hours he may be forced to work (particularly in traditional societies where leisure is highly valued), and let us assume that the economy has reached the position where the net average productivity of the free worker ( $\underline{P_f}$ ) is considerably larger than that of a slave ( $\underline{P_s}$ ). The abolition of slavery is clearly in the national interest (unless the immediate military considerations, such as of the Muscovite government, overwhelm the economic ones), but not necessarily in the interest of an individual slave owner motivated by his profit and not by patriotic sentiment. He will calculate the difference between the wage of a free worker ( $\underline{W_f}$ ) and the cost of subsistence of a slave ( $\underline{W_s}$ ) and will refuse to free his slaves unless  $\underline{P_f} - \underline{P_s} > \underline{W_f} - \underline{W_s}$ ,

all this on the assumption that either kind of labor can be used in a given field.<sup>5/</sup>

As the economy continues to develop, the difference  $\underline{P_f} - \underline{P_s}$  can be expected to widen. Unfortunately, the same forces -- technological progress and capital accumulation -- responsible for this effect are apt to increase  $\underline{W_f}$  as well, while  $\underline{W_s}$  need not change. We cannot tell on a priori grounds whether  $\underline{P_f} - \underline{P_s}$  will increase more or less than  $\underline{W_f} - \underline{W_s}$ . Therefore we cannot be sure that technological progress and greater use of capital necessarily reduce the profitability of slave as compared with free labor. Much will depend on the nature of technological progress. Thus Eli Whitney's gin greatly increased the profitability of slavery, while a transition from raising crops to breeding sheep in medieval England might have acted in the opposite direction by creating a surplus of workers. (See Part II). American planters must have used better agricultural techniques and more capital than their Latin-American and particularly Russian colleagues, but the Americans defended slavery with much greater zeal.

In a traditional society without technological progress and capital accumulation, the end of slavery is, paradoxically, more certain. As population continues to increase and the society eventually becomes Malthusian, the marginal product of labor descends to the subsistence level. Now the free man costs little more to employ than the slave, while, hopefully, being less bothersome and more productive. The ownership of human beings becomes pointless because of the great multiplication of slaves, and

they become free provided they stay poor.<sup>6/</sup> It is land that becomes valuable, and rents collected from estates worked by free laborers or tenants without any non-economic compulsion are sufficient to support an army of servitors or idlers. If the Muscovite government could have only waited a few hundred years!

## II

Where I come from, an economic model without empirical testing is equated with a detective story without an end. My attempts to test the present model, however, merely taught me that the job is not for the amateur. I shall report to you the results of my skin-deep investigation in the hope that my mistakes will stimulate the specialists. I concentrate on the Russian case, with short excursions into the histories of Poland-Lithuania, Western Europe and the United States.

1. Russia. The phenomenon to be explained here is not only the development of serfdom but its particular timing: before 1550 Russian peasants were free men; a hundred years later they were serfs. The relevant variables are:

(1) the number of servitors required by the military needs of the Moscow state, and (2) the population density.

According to Kliuchevsky, prior to the middle of the XV century, Moscow, still a Tatar vassal surrounded by other Russian lands, fought very few foreign wars; its population became dense because Moscow was the safest spot in the area with few outlets for

emigration.<sup>7/</sup> We may conclude that there was no need as yet for a large class of servitors, and that the landowners could derive rents from their estates (patrimonies, to be exact) without enserfing the peasants. It is true that Russia, from the Kievan times onward, always had a substantial number of slaves. At the time, these were mostly household servants and retainers rather than peasants.<sup>8/</sup>

From the middle of the XV century the situation changes drastically. Having become independent from the Tatars (officially in 1480, actually earlier), and having gathered a number of Russian lands, Moscow was confronted with powerful enemies: with Poland-Lithuania and Sweden in the west and northwest, and with the Crimean Tatars in the south. The struggle with the latter went on continuously, while 50 years out of the 103 in 1492-1595 were spent in wars against Poland-Lithuania and Sweden, as were the following 30 years out of 70 in 1613-1682, not to mention the Time of Troubles, 1598-1613, filled with both civil and foreign wars.<sup>9/</sup>

The military proficiency of the Muscovite armies being poor, refuge was sought in large numbers. More than 300,000 men were reported to be under arms during Ivan the Terrible's Livonian War. There must have been a great increase in the number of servitors. With trade and industry making no significant progress, the government had to assign land to them. This process began on a large scale in the second half of the XV century and was accelerated throughout the XVI century.<sup>10/</sup>

In the meantime, the central areas of the country became depopulated. The conquest of the whole expanse of the Volga river (began

in 1552) opened up vast areas of better soil and attracted large masses of peasants fleeing from high taxes, Ivan the Terrible's oppression (the famous oprichnina) and Crimean invasions. And then came the Time of Troubles which devastated the country once more. Already in the XVI century there was fierce competition for peasant hands among the landowners. It must have intensified after 1613.<sup>11/</sup>

Thus both ingredients for the development of serfdom -- a high land/labor ratio and the government's determination to create a large class of servitors -- were present. In addition, there were several other forces working in the same direction. The first was the decline in the power of the great magnates, both at the hands of Ivan the Terrible and during the Time of Troubles. By offering the peasants privileges and protection, these magnates had been quite successful in bidding the peasants away from the servitors; for this reason the magnates favored the free movement of peasants, while the servitors, quite naturally, opposed it. Now the peasants lost the support of their "friends."<sup>12/</sup> The second reason lay in the fiscal interest of the state: peasant migrations, particularly from the center to the periphery of the state, disorganized tax collections.<sup>13/</sup> And finally, the peasant communities objected to the emigration of their members because the community carried a collective responsibility for the tax liabilities of its members (until in later years this responsibility was taken over by the masters): the departure of several members would leave the rest overburdened until the next census.<sup>14/</sup>

Space does not allow me to give additional details of the process which gradually enserfed the peasants, or to discuss the disagreement between Kliuchevsky who emphasized the hopeless indebtedness of the peasants to their landlords as the main obstacle to their movement, and Grekov and Blum who put greater stress on legislative enactments (particularly on the so-called "Forbidden Years" (zapovednye gody)).<sup>15/</sup> Let me mention instead two further reflections of the scarcity of labor in Russia: the first manifested itself in the replacement of the basic land tax by a household tax in the XVII century, and by a poll tax under Peter the Great.<sup>16/</sup> The second is an interesting cultural trait which remained long after its cause had probably disappeared: as late as in the first half of the XIX century, the social position of a Russian landowner, as described in contemporary literature, depended less on the size of his land holdings (which are seldom mentioned) than on the number of souls (registered male peasants) that he owned.<sup>17/</sup>

2. Poland-Lithuania. On the theory that the length of a report should be proportional to the intensity of research done, this section will be very short. The relevant facts are as follows:

(1) In the XIV century vast open and very sparsely populated territories in the Ukraine were conquered by the Lithuanians.<sup>18/</sup>

(2) In the XV and XVI centuries, Ukraine was repopulated by immigrants from the more central areas of the state. The migration depopulated the central areas to such an extent as to constitute, according to Grekov, a threat to the Polish state.<sup>19/</sup>

(3) By the end of the XVI century, the peasants were enserfed.<sup>20/</sup>

What is not clear to me is the time sequence of events

(2) and (3). In Vol. III (p. 110), Kliuchevsky dates the repopulation of the Ukraine in the XVI century; in Vol. I (p. 293) -- in the XV century. But in both places he attributes the migration of peasants to the intensification of serfdom in Poland-Lithuania. Polish serfdom, according to him, had been established already in the XIV century, and Lithuanian -- in the XV century.<sup>21/</sup> On the other hand, Grekov asserts that according to the Polish constitution of 1493, each peasant could still leave the land, having settled accounts with his landlord. But he also reports that in 1444 the Galician gentry demanded that the government prevent other landlords from interfering with the peasant movements.<sup>22/</sup> Evidently, such interference was taking place even then.

In Poland-Lithuania great gaps between legal enactments and the actual state of affairs were quite possible. There were probably considerable regional variations, both in law and in practice as well. I would be happier if it could be established that migration to the Ukraine preceded the development of serfdom, but I am certainly not in a position to settle the matter. It is quite possible that migration and serfdom were reinforcing each other.

Since I have not studied the development of serfdom in other East European countries, I can make only two brief comments on Blum's well-known and very interesting article on "The Rise of Serfdom in Eastern Europe." His stress on the increasing power of the nobility and on the general depopulation of the area "from the



Elbe all the way across to the Volga..." is heartily welcome.<sup>23/</sup>  
 But his use of alternating periods of prosperity and depression as important causes of the rise and decline of serfdom cannot be evaluated until he presents an analytical explanation of the causation involved.

3. Western Europe. We shall deal here very briefly with four events:

- (1) The emergence of serfdom in the late Roman Empire
- (2) The decline of serfdom by 1300
- (3) Its non-recurrence after the Black Death
- (4) The relationship between sheep breeding and serfdom.

The depopulation of the late Roman Empire is, of course, well known. Referring to Bysantium, Georg Ostrogorsky states:

And so ever-increasing masses of the rural population were tied to the soil. This is a particular instance of the widespread compulsory fastening of the population to their occupation which scarcity of labour forced the later Roman Empire to pursue systematically.<sup>24/</sup>

This is the clearest statement on the relation between scarcity of labor and the development of serfdom that I have come across in my reading of European economic history.

Similarly, the great increase in population in Western Europe by the end of the XIII century when serfdom was declining is also well known. Thus Ganshof and Verhulst talk about "... a considerable and growing reserve of surplus labor ..." in France, and Postan

discusses signs of overpopulation in England: a growing number of wholly landless men, sub-holdings of many tenants, shortage of pasture, etc.<sup>25/</sup> The same information for Western Europe in general is supplied by Smith, who adds that:

The problem therefore for western landowners, at any rate before the demographic collapse of the mid-fourteenth century, was not to keep tenants, but how to get the most out of them.<sup>26/</sup>

Since these facts fit my hypothesis so nicely, let me stop here while I am still winning.

But when we come to the depopulation caused by the Black Death after 1348 (though, according to Postan, English population stopped growing even earlier),<sup>27/</sup> my hypothesis is of little value in explaining the subsequent course of events. (See Part I). Why did serfdom fail to come back after such a sharp increase in the land/labor ratio?

I address myself only to England. Except for a rather queer one to be discussed presently, I have no economic explanations to offer and have to fall back on political factors. Serfdom could not be restored unless the landowners were reasonably united in their pressure on the government, and unless the latter was willing and able to do their bidding. But it is most unlikely that every estate lost the same percentage of its peasants. Hence, those landowners who had suffered most would welcome the freedom of peasant movement, at least for a while, while those who had suffered least would oppose it. If so, the landowners could not be united.

Postan suggests the probability that the main pressure behind Richard II's legislation came not from feudal landowners, but from smaller men;<sup>28/</sup> English magnates, like their Russian colleagues (see above), could evidently take care of their own interests. Though I cannot judge the "spirit" of medieval legislation, it seems to me that the measures undertaken by Richard's government were somewhat halfhearted.<sup>29/</sup> In any case, they were ineffective. So economic forces could reassert themselves and help the peasants.

The queer economic explanation which I <sup>have</sup> just mentioned would delight an economist if only it squared with facts. It is the expansion of sheep breeding, an activity which is land-using and labor saving.<sup>30/</sup> Unfortunately such data as I could find do not support the contention that there was an expansion of sheep breeding in the hundred years following the Black Death. The legal exports of English wool, in raw and in cloth, fell from 12 million pounds in 1350 to 8.7 million in 1400 -- a drop of 27 per cent. Another fall of 12 per cent (of the 8.7 million) took place by 1450.<sup>31/</sup> My authorities do not state the proportions of wool consumed at home and smuggled out of the country.<sup>32/</sup> Perhaps these were affected by the Hundred Years War. But as things stand, I certainly cannot claim that an expansion of English sheep breeding took place after 1350 and that it helped to save the peasants from the return of serfdom.<sup>33/</sup>

Judging by Thomas More's famous passage about sheep devouring men, by Bishop Latimer's "Sermon of the Plough" (1549), and by other more direct evidence, there must have been considerable

expansion of sheep breeding at the expense of crops and of people in the XVI century.<sup>34/</sup> By that time, however, English peasants hardly needed the help from the sheep to stay free.

But is it possible that the early expansion of sheep breeding which must have taken place sometime prior to 1350 had helped the English serfs to gain their freedom after all?

4. The United States. The American South, fits my hypothesis with such embarrassing simplicity as to question the need for it. The presence of vast expanses of empty fertile land in a warm climate, land capable of producing valuable products if only labor could be found seems to me quite sufficient to explain the importation of slaves. What is not clear to me is the failure of the North to use them in large numbers. Besides social and political objections, there must have been economic reasons why Negro slaves had a comparative advantage in the South as compared with the North. Perhaps it had something to do with the superior adaptability of the Negro to a hot climate, and/or with his usefulness in the South almost throughout the year rather than for the few months in the North.<sup>35/</sup> I have a hard time believing that slaves could not be used in the mixed farming of the North: much food was produced on southern farms, most of the slave owners had very few slaves, and many slaves were skilled in crafts.<sup>36/</sup> A study of the possible profitability of slavery in the North, along Conrad and Meyer's lines, which could show whether the North could have afforded paying the market price for slaves, would be most welcome.

I have not come across any good evidence that slavery was dying out in the United States on the eve of the Civil War, and I side here with Conrad and Meyer, though, in truth, I am not sure that such a thorough investigation was required to prove the profitability of slavery in the South.<sup>37/</sup>

### III

In conclusion, let me say a few words about the origin of my hypothesis and about its place in economic history. Although I had discussed it in my classes for a good dozen years, I did not write it up until 1966 because I had been told on good authority that the idea was old and well known. My source was indeed correct because a brief search in the library revealed quite a few predecessors. The most important of them was the Dutch scholar Herman J. Nieboer whose magnum opus of 465 pages under the title of Slavery as an Industrial System: Ethnological Researches was published in 1900.<sup>38/</sup> The hypothesis which I have immodestly called "mine" is stated by him time and again, and tested against a mass of anthropological and historical data. As you might expect, he was satisfied with his results.

But the hypothesis was not really original with Nieboer. He traced it back to A. Loria's Les Bases Economiques de la Constitution Sociale of 1893, and to E. G. Wakefield's A View of the Art of Colonization published in 1834. Some glimpses can be found even in Adam Smith's The Wealth of Nations.<sup>39/</sup>

I have two disagreements with Nieboer. First, his definition of free land has too much legal and not enough economic content to

my taste, though he seems to have been unclear rather than wrong. Second, he exaggerated the importance of the hypothesis by claiming, though not in so many words, that free land or other free resources are both necessary and sufficient for the existence of slavery or serfdom: "... Only among people with open resources can slavery and serfdom exist, whereas free labourers dependent on wages are only found among people with close resources."<sup>40/</sup> He protected himself with a note on the same page by excluding simple societies of hunters, fishers and hunting agriculturists, hardly a fit company for the farmers of the American North. He disregarded the possibility that serfdom, once established, could exist for a long time after its initial cause -- free land -- had disappeared, or that serfdom may be even introduced in the absence of free land. He ignored the role of government.

These, however, are minor defects in an important contribution.

On the other hand, my source may have been a bit wrong. If historians have always known about the relation between the land/labor ratio and serfdom (or slavery), they must have tried hard not to scatter too many good, clear statements in places where I could find them, though the students of the American South have been much kinder to me than others.<sup>41/</sup> Nieboer could also lodge some complaints. His name can be found neither in the bibliography nor in the index of the 1966 edition of the first volume of The Cambridge Economic History of Europe. And it is absent from Blum's classic study of Russian serfdom. I did find Nieboer's name in Genovese's The Political Economy of Slavery in connection with some insignificant point,

but with a further notation that "Phillips read and referred to this book." Phillips had read it, and confirmed that "hired labor was not to be had so long as land was free."<sup>42/</sup>

Perhaps in history this hypothesis occupies a place similar to that enjoyed by economic growth in economic theory not long ago. That place was once described as "always seen around but seldom invited in." If so, why not invite it? After all, the land/labor ratio is readily quantifiable.

## NOTES

1/ For many helpful comments on an earlier draft, I am grateful to the following persons: Abraham Becker, Oleg Hoeffding, Clayton La Force, Edward Mitchell, William Parker, George Rosen, Matthew Edel, Peter Temin, Helen Turin and Charles Wolfe. Alexander Gerschenkron's earlier suggestions were also very helpful.

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2/ V. Kľučevsky, Kurs russkoĭ istorii (Moscow: Gosudarstvennoe sotsial'no-ekonomicheskoe izdatel'stvo, 1937). The original work was published in 1906. All my references apply to the 1937 edition. An English translation by C. J. Hogarth, A History of Russia, was published in New York by Russel and Russel in 1960. For specific references, see Part II.

3/ I mean by the "government" any organization capable of maintaining some measure of law and order and particularly of using non-economic compulsion. It can be a king, an assembly of landowners, a magnate, etc.

4/ He may be restrained by custom and by the fear that his serfs can run away -- a common occurrence in Russia.

5/ Actually, it is not easy to compare the relative profitability of free and slave labor. Since the free worker is paid



more or less concurrently with his work, while a slave must be either reared or purchased, and may have children, etc., the streams of receipts and expenditures from the two kinds of labor must be properly discounted. It is assumed in the text that all indirect costs of using slaves, such as medical expense, extra supervision, etc., are included in  $W_s$ .

In a well-organized slave market, the price of a slave will approximate the present value of his discounted net lifetime marginal product. A buyer who pays this price will discover that he will earn not much more than the going rate of interest; he will complain about the high cost of slaves and express doubt regarding the profitability of slavery in general, because at the margin he will be fairly indifferent between employing free or slave labor. But so long as the supply of food and of similar items for the maintenance of slaves is elastic (which it is likely to be), the slave-breeder should do very well. He benefits from the perpetual disequilibrium in the slave market created by the abundance of land and by the limited human capacity to procreate (assuming no importation of slaves). But if the slave-breeder computes his rate of return on the current value of his slaves and land, he may not record much more than the market rate of interest either. In other words, the market mechanism transforms the profit from slaves into capital gains.

On this see Lewis Cecil Gray, History of Agriculture in the Southern United States to 1860, published in 1933 and reproduced in part in Harold D. Woodman, Slavery and the Southern Economy: Sources

and Readings (New York: Harcourt, Brace & World, Inc., 1966), pp. 106-09, and Alfred H. Conrad and John R. Meyer, The Economics of Slavery and Other Studies in Econometric History (Chicago: Aldine Publishing Company, 1964), pp. 43-92.

6/ It is possible that even in a Malthusian society slavery (or serfdom) may linger on. Slaves may be kept for reasons of social prestige (a relic from the times when slavery was profitable), or simply because a slave is more reliable than a hired man.

On the other hand, the use of a tenant (with a limited lease) or of a hired man allows the landowner to choose the best among several applicants with much greater ease than among slaves or serfs protected by custom.

7/ Kľučevsky, op.cit., Vol. I, p. 379; Vol. II, pp. 9-10, 121. Blum, however, talks about depopulation already in the XIV and XV centuries. See Jerome Blum, Lord and Peasant in Russia from the Ninth to the Nineteenth Century (Princeton: Princeton University Press, 1961), pp. 60-61. It is possible that Kľučevsky describes the relative position of Moscow among other Russian lands, while Blum refers to the whole country.

8/ Kľučevsky, op.cit., Vol. I, pp. 282-83; Vol. III, pp. 182-83.

9/ Ibid., Vol. II, pp. 121, 125, 221-22; Vol. III, p. 135.

10/ Ibid., Vol. II, pp. 221, 229-42, 248; Vol. III, pp. 63-64, 230-31, 257, 283. Blum, op.cit., pp. 93, 157.

11/ Kľučevsky, op.cit., Vol. II, pp. 254-57, 339-44; Vol. III, pp. 182, 244. Blum, op.cit., pp. 147, 152-54, 157, 160, 252. B. D. Grekov, Krest'iane na Rusi s drevneishikh vremen do XVII veka

(Moscow-Leningrad: Izdatel'stvo Akademii Nauk SSSR, 1946), pp. 794-96, 849.

12/ Ključevsky, op.cit., Vol. II, pp. 259, 307. Blum, op.cit., pp. 253-54. Grekov, op.cit., pp. 870-71, 903, 909; Grekov, Glavneishie etapy v istorii krepostnogo prava v Rossii (Moscow-Leningrad: Gosudarstvennoe sotsial'no-ekonomicheskoe izdatel'stvo, 1940), p. 46.

It is interesting to note that when the leaders of the gentry militia were negotiating a treaty with the Polish king Sigismund regarding the accession of his son to the Moscow throne in 1610 and in 1611 they demanded the inclusion of a provision forbidding the movement of peasants. Ključevsky, op.cit., Vol. II, p. 349.

13/ Ključevsky, op.cit., Vol. III, p. 188.

14/ Ibid., Vol. II, pp. 317-18, 336-37, 340. Blum, op.cit., pp. 96, 234.

15/ Ključevsky, op.cit., Vol. II, pp. 321-23, 331-50; Vol. III, pp. 181-88. Blum, op.cit., pp. 254-55. Grekov, Krest'iane, pp. 826, 850. Grekov, Glavneishie, pp. 64-65.

If the peasants' debts tied them to their lords as strongly and as hopelessly as Ključevsky asserts, it is puzzling that the government had first to limit and then to forbid their movement by law.

16/ Ključevsky, op.cit., Vol. III, pp. 243-46; Vol. IV, pp. 142-48. Grekov, Glavneishie, pp. 71-72.

17/ Here are a few examples: In Pushkin's Dubrovsky, the old Dubrovsky is identified as the owner of seventy souls, and Prince Vereisky -- of three thousand; in The Captain's Daughter, the commandant's wife is impressed by Grinev's father's ownership of

three hundred souls; in Gogol's The Dead Souls. Plushkin owns more than a thousand souls; in Goncharov's Obломov, the principal hero owns three hundred and fifty; in his A Common Story, a certain Anton Ivanich has twelve, mortgaged over and over again ....

18/ Klifuchevsky, op.cit., Vol. I, p. 293.

19/ Ibid., Vol. I, pp. 293-94. Grekov, Krest'fane, p. 387.

20/ Jerome Blum, "The Rise of Serfdom in Eastern Europe," American Historical Review, LXII (1957), pp. 807-36. See particularly pp. 821-22.

21/ Klifuchevsky, op.cit., Vol. III, pp. 101-02.

22/ Grekov, Krest'fane, pp. 381-83. There seems to be considerable disagreement among the authorities he cites. He mentions a number of legislative enactments passed at the end of the XV century and in 1510, 1519, 1520, 1532 limiting the freedom of peasants to move. (P. 387).

23/ Page 819 of the source given in note 20.

24/ Georg Ostrogorsky, "Agrarian Conditions in the Byzantine Empire in the Middle Ages," The Cambridge Economic History of Europe, Second Edition (Cambridge: Cambridge University Press, 1966), Vol. I, p. 206. See also pages 11, 27-28, 33, 66 and 257 of the same volume. Also, W. R. Brownlow, Lectures on Slavery and Serfdom in Europe (London and New York: Burns and Oates, Ltd., 1892), pp. 49-50.

25/ François Louis Ganshof and Adriaan Verhulst, "Medieval Agrarian Society in its Prime: France, The Low Countries, and Western Germany," Cambridge Economic History, op.cit., p. 294; M.M. Postan in his essay on "England," same volume, pp. 552-56, 563-64, 624; Blum, "The Rise of Serfdom," pp. 810-11.

26/ R. E. F. Smith, The Enserfment of the Russian Peasantry (Cambridge: Cambridge University Press, 1968), p. 4.

27/ Postan, op.cit., pp. 566-70.

28/ Ibid., p. 609.

29/ Brownlow, op.cit., pp. 157-83. Smith, op.cit., pp. 4-5.

30/ The idea that sheep-breeding may have had something to do with serfdom was suggested by Niehoer in his book (pp. 371-75) discussed in Part II

31/ K. G. Ponting, The Wool Trade Past and Present (Manchester and London: Columbine Press, 1961), p. 30. The figures are based on a chart facing p. xviii of Medieval Merchant Ventures by E. Carus Wilson.

32/ According to Postan, op.cit., p. 568, domestic consumption of cloth is not known. Peter J. Bowden arbitrarily assumed it to be fifty per cent. See his The Wool Trade in Tudor and Stuart England (London: Macmillan & Co., Ltd., 1962), p. 37.

33/ Data on the size of the sheep population, or more correctly -- on increments in it -- would not be sufficient for our problem. We would have to know how many crop-raising peasants were replaced, say, by a 1,000 extra sheep.

34/ See E. Lipson, The History of the Woollen and Worsted Industries (London?: Frank Cass & Co., Ltd., 1965), p. 19; E. Nasse, On the Agricultural Community of the Middle Ages, and Inclosures of the Sixteenth Century in England (London: Macmillan & Co., 1871), pp. 77-78; Brownlow, op.cit., p. 184; Bowden, op.cit., p. xvi.

35/ Woodman, op.cit., p. 7.

36/ Conrad and Meyer, op.cit., p. 80; James Benson Sellers, Slavery in Alabama (University, Alabama: University of Alabama Press, 1950), pp. 71, 120, 162-63; Rosser Howard Taylor, Slaveholding in North Carolina: An Economic View (Chapel Hill: University of North Carolina Press, 1926), p. 72; Harrison Anthony Trexler, Slavery in Missouri (Baltimore: The Johns Hopkins Press, 1914), pp. 13, 19; Woodman, op.cit., pp. 14-15.

